

Macdonald College SEP 1 0 1967

# macdonald **FARM** journal



SEED GROWER  
IN A  
CHANGING  
AGRICULTURE  
by  
Prof. H.A. Steppler

AUGUST 1967





THE MACDONALD LASSIE





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# macdonald farm journal

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### Our Cover:

Dr. J. W. Costerton at the controls of the Philips EM100C electron microscope at Macdonald College. This amazing instrument, using beams of electrons in place of light, can "see" objects 50,000 times smaller than is possible with a light microscope. Under it, the virus of foot and mouth disease, one of the smallest, appears an eighth of an inch long. A louse, in the same ratio, would need a barn larger than the Montreal Forum. Dr. Costerton, working with National Research Council grants, is doing basic research on the structure of cell walls, using bacteria. For study, he cuts a single bacterium into twenty slices. A thousand bacteria can stand shoulder to shoulder on the head of a pin!

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Guest Editorial  
by Prof. R. D. Baker,  
Department of Animal Science.

## BEEF ASSOCIATIONS BLOCK PROGRESS IN A.I.

It is about time the members of the purebred beef associations in this country take a good hard look at their rules and regulations that curb the use of artificial insemination. With the exceptions of the Canadian Charolais and Galloway associations, the other purebred beef associations, including the Canadian Aberdeen Angus Association, the Canadian Hereford Association and the Canadian Shorthorn Association do not permit the registration of calves sired by the increasing number of outstanding progeny-proven bulls available when these bulls are owned by A.I. organizations.

Although these regulations have not been unduly restrictive in the past because of the inconvenience of using A.I. under range conditions, this whole picture is changing with the development of practical methods of synchronizing heat or estrus in beef cows.

Estrus synchronization offers several advantages to beef producers. The first and by far the most important is that it promotes, if not demands, the use of artificial insemination. Secondly, beef breeders will be able to greatly improve the efficiency of their operation by breeding large groups of cows within a predetermined, restricted interval of time. Added to this convenience will be the advantages of having groups of calves of uniform age which can be more easily fed, handled and sold as uniform lots.

One of the major roadblocks to the use of estrus synchronization and A.I. is the regulation preventing the registration of calves sired by A.I. organization bulls. Some breed associations say that the rules are necessary to prevent the risk of confusing the semen from one bull with that from another bull. Yet these same associations do not restrict the use of semen produced by an A.I. organization as long as the bull is owned by the breeder and not by the A.I. Unit.

Most cattlemen admit that the real reason for the A.I. regulations is to protect the bull market. There is little doubt that the future use of estrus synchronization and A.I. will reduce the market for unproven or inferior bulls. On the other hand, the market for superior sires from a wide variety of blood lines will increase.

If purebred breeders want to stay in the business of producing superior breeding stock, they will have to continue to improve the efficiency of their operation. To this end, estrus synchronization and the use of superior, progeny-tested sires, regardless of their ownership, offer real possibilities.

Progress requires change and it is time the purebred beef associations changed their short-sighted regulations restricting the use of artificial insemination.





by P. Y. Hamilton,  
Department of Animal Science

## ON THE COLLEGE FARM

# BREED COMPARISONS IN HOGS

**Under the direction of Dr. John Moxley data has been accumulated over the past few years on the performance of the breeds, crosses, and backcrosses in the Macdonald College herd. The highlights are here reviewed.**

The influence of sires within breeds and in cross breeding has been evaluated in a series of studies at Macdonald College. The results of this work have been released previously. Attempts have been made to obtain both the original stock and the boars from separate segments of the swine population in an effort to make the herd as representative of the breed as possible.

In general the findings have been similar to others in regards to Yorkshire and Landrace breeds and the crosses between them. The Yorkshires have shown slightly larger litters of smaller pigs than the Landrace. The crossbred sows have averaged larger litters at both birth and weaning than the purebreds.

In growth characteristics the crossbreds have shown distinct superiority, particularly pigs from crossbred sows. In this population of sows, the Landrace shows superior birth qualities to the Yorkshires.

The superior growth characteristics of the Landrace could be assumed to

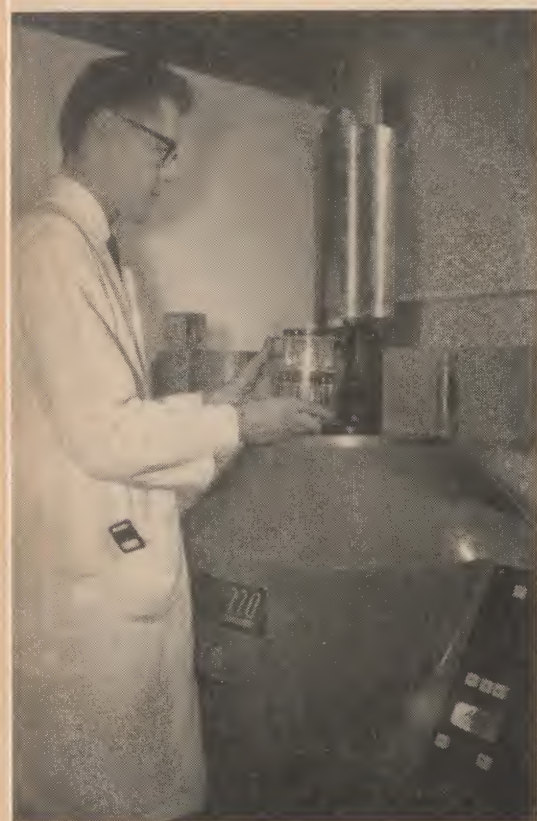
be the result of larger pigs at birth. One study on 244 litters in the Macdonald herd showed the weight at birth to have a profound influence on the growth weight of the pigs.

The sows of the Lacombe breed in the Macdonald College herd have yielded smaller litters both at birth and weaning than the other two breeds. Lack of uniformity among pigs of the same litter has been common and the rate of growth varies widely. There have been some problems selecting good replacements. The feet and legs on the Lacombe breed in the herd are not good. The problem has been worse since the use of bedding has been terminated.

Our herdsman complains about the Lacombe pigs being "dirty". It appears that at least part of the reason for this is soreness or weakness in the legs and feet. It should be emphasized that these observations apply only to the Lacombe

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(Please turn to page 10;  
see BREED — )



The research irradiator at Macdonald College is used to study the effects of pasturizing doses of irradiation on the shelf-life of food. Dr. Idziak, here places the container of food in the unit to be lowered mechanically into the center of the Cobalt-60 source.

# FOOD IRRADIATION

**Research is continuing to develop new practical and safe applications of radiation energy in the food industry for the benefit of mankind.**

by  
Edmund S. Idziak \*  
Department of Microbiology

Irradiation to most people, in the first instance, suggests nuclear warfare — the atom bomb and radioactive fallout — radioactive iodine and Strontium in milk, field crops — formation of cancerous cells. On deeper reflection one realizes that there are also numerous peaceful uses of the atom — electrical power generated by the energy from radioactive sources, energy to propel submarines and ships, as well as the use of the cobalt bomb in the therapeutic treatment of cancerous or malignant tissue. Few people are aware that at present radiation energy is used to sterilize approximately 30% of a great variety of medical devices (sutures, canulae, artificial organs) and increasing as more sources become available. Still fewer people appreciate the fact that this form of energy is now in use commercially to process and preserve several different kinds of foods.

There are many forms of irradiation energy, i.e., U.V., X rays, alpha

and beta particles, gamma rays, but not all of these are suited for use in food processing. Alpha particles are useless due to their low penetration capacity. Ultra violet light is used to destroy surface organisms of meats during ageing, but is of no use in sterilizing whole cuts of meat. Beta rays, which have low penetration in their native emission state can be made to penetrate greater depths by increasing their speed of travel with linear accelerators. Nevertheless a maximum penetration of about four inches limits the types of products that can be processed by this means. With bulkier items, one has to use more penetrating forms of energy, i.e. X ray or gamma radiation.

The main function of the irradiation treatment of food is to destroy the microbial flora, which if left viable will eventually cause spoilage or cause the food to become toxic. This is generally accomplished in two different ways. First, by direct action where inactivation of a site within the organism, essential for reproduction, is destroyed. Second, by indirect action where irradiation alters the form or structure of chemical compounds on or around the cell. This altered component then effects the destruction of the cell.

\* Professor E. S. Idziak, B. Sc. (Agr.), M. Sc., D. Sc. (Delft), Department of Microbiology, Macdonald College. Dr. Idziak was, until 1965, with the Food and Drug Directorate, Ottawa.



As with other forms of food processing, irradiation energy can be used to either sterilize or pasteurize foods. Whereas with heat, sterilization temperatures also destroy the autolytic enzymes, irradiation doses effecting microbial sterility will not inactivate the autolytic enzymes. These would then eventually cause deterioration of the food. Therefore low heat treatment i.e., blanching of vegetables, a few minutes at 60°C for bacon, is essential. A feature of radiation sterilization, with its inherent mild heat treatment, is that it enables us to store for many years at room temperature a product which must be considered raw and which, when needed, can be prepared in the same way as the original fresh product. Research into this type of processing is concentrated on the production of toxic materials and the nutritive value of the product.

With pasteurization processes, additional problems have to be dealt with as all the organisms are not destroyed. We know what happens to the microbial population when under normal conditions a product is allowed to spoil. We also know which organisms will survive the various heat pasteurization processes now in use and eventually cause spoilage. Such detailed and complete information is however lacking for radiation pasteurization processes. In some of our experiments, with radiation preservation of fresh poultry we have established that the normal spoilage microflora may be eliminated and after three weeks the product was not spoiled but contained large numbers of ubiquitous potentially human pathogenic organisms. Thus a situation can develop where a product does not appear to be soiled but may be dangerous. This aspect has been successfully resolved by further experimentation.

Another problem extolled by the Food and Drug Directorate in Ottawa was that some organisms may be recycled through the irradiation source and become increasingly more resistant and as a result a process initially deemed adequate may in time become useless. We did confirm that increased resistance did occur when pathogenic *Salmonellae* and *Staphylococci* were recycled twelve times through an irradiation source. Even with the increased resistance, the doses which are being recommended would still effectively eliminate at least  $10^5$  of these organisms per gram of poultry — a number never attained under normal conditions of handling. (24 *Salmonella* per 100g).

Scientists evaluating the potential safety of irradiated foods must satisfy themselves, and others, that they are

not unknowingly releasing a dangerous food commodity. Foods are judged to be safe if they are free from pathogenic organisms and toxic materials. Standard methods have therefore been developed for the detection of such bacteria. It still had to be established that microorganisms surviving irradiation treatment would still be detected by these standard methods — because if they are not, the food would be judged safe whereas in fact it would be dangerous. Our experience has been that *Salmonella* and *Staphylococcus aureus* species surviving repeated irradiation treatment are still readily detected. In addition, before any new process would be deemed acceptable by our public health authorities, extensive feeding studies to test animals must be conducted. Such studies with a variety of products have unequivocally shown the food to be safe and nutritive.

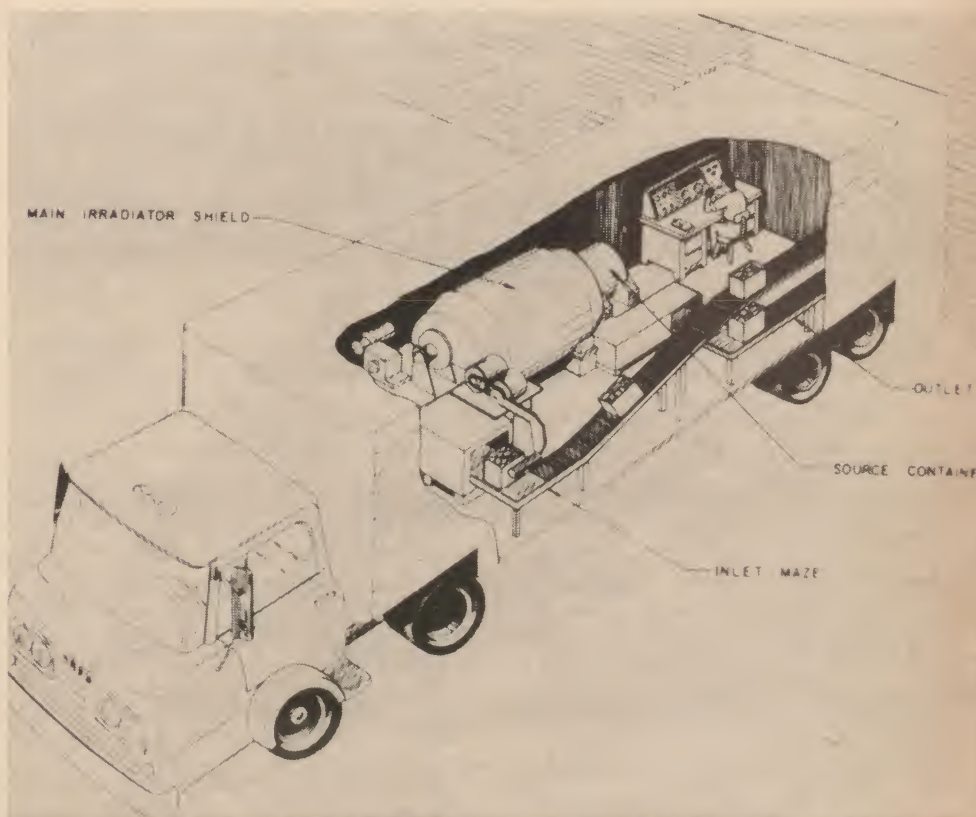
A basic fear of most people referring to irradiated foods is that the food stuff may be radioactive. This fear is definitely not founded in fact. The food never comes in contact with the irradiation sources, thus no radioactive particles are deposited on the product, nor is the energy sufficient to excite the molecules of food to become radioactive.

All of these tests would be useless if the product was not acceptable organoleptically to the consumer. Dr. Farmer and her students of our School

of Food Science have fed irradiated and non-irradiated unseasoned cooked poultry to taste panels. The members of these panels could not differentiate between irradiated and untreated poultry with any degree of constancy.

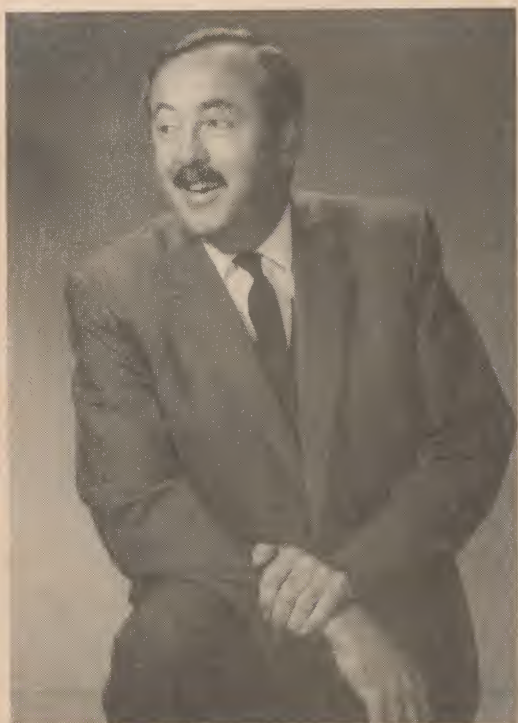
Not all radiation processing of foods has as its function the elimination of microbial spoilage. Potatoes and onions are irradiated with 15 Krads of gamma energy to permanently eliminate internal and external spoiling. Doses in the hundreds of rads appear to increase sprouting and yields per acre. With bananas, ripening can be delayed for prolonged times (thus increasing shipping distances) with ripening being initiated at any time by treatment with diethylene. Shrimp have been irradiated, not to extend their shelf life beyond that at present, but rather to maintain their top quality during this period. Grains and cereals have been successfully de-infested by this means. The darkening of mushrooms during storage is greatly delayed by gamma energy. Mould growth on strawberries is also greatly reduced.

At present both mobile and fixed facilities are available in Canada for irradiation purposes. Atomic Energy of Canada has successfully built the first mobile Radiation Unit and installed the first fixed radiation source for commercial use. As new foods become acceptable for radiation processing, new facilities must be designed to meet the individual requirements.



The mobile irradiation unit of Atomic Energy of Canada fills the gap between research and full commercial use of radiation for food preservation.





H. A. Stepler\*

## The Seed Grower in a Changing Agriculture

In these times of crisis with respect to food supplies for mankind there are many people taking a critical look at the nature of agriculture. In my estimation there is a very simple principle upon which all agriculture is based. That principle might be called 'nature's basic cycle', and it consists of a green plant using the energy from the sun, the nutrients from the soil, water and carbon dioxide, and through the process of photosynthesis producing carbohydrates. This is a basic cycle which research scientists have not yet been able to duplicate in the laboratory. The critical factor in that cycle — assuming that the energy of the sun is not threatened — is the green plant. All other life on the earth depends upon the photosynthetic process. Animals are no more than biological factories converting the plant product into some other product used by man for his food supply. Animal protein is obviously important in human nutrition, but it

is not irreplaceable. Thus, the green plant becomes our major concern.

In our agricultural research, particularly in agronomy and its closely related subject-areas of plant breeding and soil fertility, we are constantly looking for more efficient means of using the natural resources and, through a plant, increasing our capability to produce food. We always return to the plant as the key factor.

It is patently obvious that if we are to continue to utilize in our agriculture an efficient plant once it has been discovered, we must have the means of propagating that plant. The most common means of propagation is through the production of seed. Great care must therefore go into the production of that seed to ensure that the progeny which it produces will resemble, as closely as possible, the parent from which it was derived. In my opinion, a sound system for the production of pedigreed seed is an integral part of a sound agricultural program.

Agriculture itself is changing in Canada. I am sure that you realize that the information which you received two or three years ago is now essentially out-of-date. While your father

\* Professor and Chairman, Department of Agronomy, Macdonald College of McGill University. From an address to the annual meeting of the Canadian Seed Growers Association, Quebec City, June 27, 1967.



may have been able to turn to his father for advice and found it sound and practical, it is most unlikely that you can turn to your father for advice, or that your son is likely to turn to you for advice — not that he feels that the advice would be wrong, but rather that new information is being constantly made available and that current information becomes obsolete.

Agriculture in the future will be characterized by increased specialization in all phases, and this I believe will be particularly true in terms of our improved varieties. If we are to have crops which have a high level of efficiency in producing food, then we must have plants which are well adapted to particular environments. This will probably mean that there will be an increased number of varieties in each of our major crops, with each variety fitting a particular environmental niche.

A consequence of this increased number of cultivars in any given crop kind will result in a reduced amount of pedigreed seed required for each variety in comparison to the present situation with few varieties. The situa-

any one grower handles remains the same and there is an increase in the number of growers; or, obviously, there can be a combination of these two development directions.

As I suggested earlier, the private plant breeder will play an increasing role in the production of new cultivars. Many of these will be produced by private seed firms. These seed firms turn to the Canadian Seed Growers' Association for its cooperation in the production of pedigreed seed of their cultivars, and this will be done through contract production. The contracting body will very soon identify the best growers among the membership and it will be these to whom they turn to have their material increased.

What are the problems that this is likely to bring to the seed grower? The increasing number of cultivars will be brought about as the result of the breeding of material with special characteristics to fit specific environments. In addition, it is quite possible that many of these cultivars will be hybrid in nature arising either from sexually or asexually propagated mate-



**Seed growing, already an exacting branch of agriculture, will in the years ahead require highly trained specialists.**

tion in hybrid corn could well be the situation that pertains to all of our economic crops. It is unreasonable to assume that one or two varieties of timothy could satisfy all the different environments within which we wish to grow timothy and to be at maximum efficiency in each one of these environments. Thus, the situation with respect to pedigreed seed production could develop in one of two ways. Either each seed grower produces a greater number of cultivars and is faced with an increasing problem maintaining purity, or the number of cultivars that

rial. The seed grower will be required to know how to handle this highly bred material in order to achieve maximum seed production from it with maximum purity. Thus, I believe that we will see developing a group of growers with highly specialized knowledge in management for seed production of specific types of cultivars. This knowledge will encompass not only the handling of the crop itself, but all of the associated factors such as fertility, management, pest control (insect, disease and weed), and harvesting techniques and cleaning techniques appropriate to the specific material.

The grower being faced with many more cultivars will also be faced with the problem of recognizing impurities or off-types within these various materials. He must develop the knowledge not only to identify an off-type among the seemingly normal plants, but also the ability to determine in many instances the cause of the off-type. Was it a mechanical mixture? Was it the result of some new practice which he has employed in controlling pests? Was it the result of a shift in environment? Obviously, the seriousness of the presence of the off-type depends on the nature of its source. The seed grower of the future will need to develop the sharp eye of a plant detective. He will be constantly up-dating his information and seeking ways to apply new

technology to his problem. He will be expected to read an increasing number of technical bulletins dealing with all phases of seed production. Inevitably it means a higher educational standard for the successful grower.

Finally, I would like to return to the question of the relationship between the seed grower and the seed trade. One cannot exist without the other. The fact that the seed company of the future is going to engage more and more in plant breeding and therefore in the release and increase of its own cultivars means that its relationship with seed growers must become more intimate. The seed grower has developed a high degree of skill in managing his crops for seed production. This skill will be sought after by the seed trade and the two must work together if the agriculture in general is to move forward to meet the challenge of the increasing population and increasing demands for food. My all-too-brief visit to sub-tropical countries where an organized seed growers' association does not exist, where pedigreed seed is unheard of, and where crops are of a mediocre standard, serves to emphasize to me the vital role which an organization such as yours plays in an efficient agriculture. Let us ensure that it not only keeps abreast of changing agriculture but that it continues to be a leader in its special area of activity.





stock in the College herd, under these specific management conditions.

Detailed carcass data including R.O.P. measurements have been recorded on thousands of our market hogs both in a Montreal abattoir and in our own meat cutting facilities. This data was compiled mainly to compare mating systems and sire effects, but it has revealed some interesting information on the side. The difference between

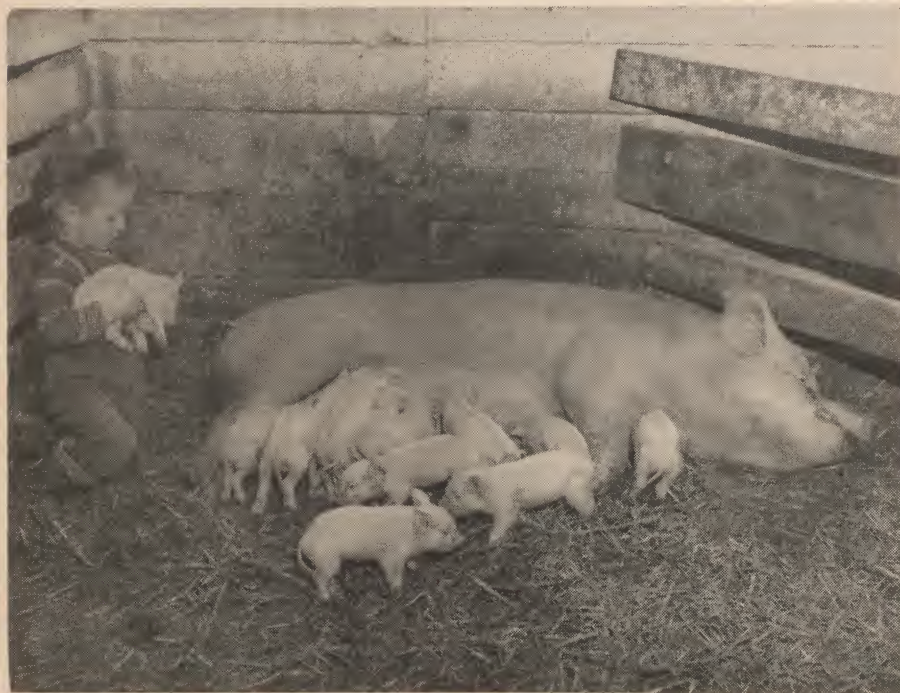
the female carcasses and the carcasses of the barrows were very significant. In the study of data on 1,618 carcasses from the Macdonald herd the lean cut yield from gilts was worth \$1.35 more than the barrow carcasses. This sex difference in carcasses was greater than the difference between Grade A and Grade B carcasses.

Mating systems, that is purebreeding, crossbreeding, back crossing etc., show little effect on carcass quality, but the influence of sire on carcass traits regardless of mating system is evident.

Comparison	Difference in Weight	
	at 56 days	at 154 days
Crossbreds vs. purebreds	1.4	12.6
Landrace dams vs. Yorkshire dams	4.0	11.6
Landrace sires vs. Yorkshire sires	0.3	1.2

Pounds Above Average of Pigs  
Weighing One Pound Heavier at Birth

	at Weaning (3 weeks)	at 8 weeks	at 5 months
Purebred	3.4	6.4	18.8
Crossbred	3.9	9.0	28.8



## FAMILY FARM TO STAY

"A well equipped family farm adapted in size to climate, soil conditions and production targets is the ideal production unit. Agriculture is not a field for public or collective enterprise."

This positive statement climaxed Dr. E. T. Wahlen's address at the "Food Resources of Mankind" Centennial Symposium at Macdonald College on June 22. Dr. Wahlen, formerly Deputy Director-General of the Food and Agri-

cultural Organization of the United Nations, and now living in his native Switzerland, has been honoured around the world for his work.

Dr. Wahlen, in this statement, was referring not only to North American farming, but agriculture in the developing countries. He added, "This is not to say that under certain conditions there is not room for industrial farming in a large scale; but under present condi-

tions, there is no room for absentee ownership or inefficiently run large estates."

Dr. Wahlen had an explanation for the paradox of these large estates being parcelled out in small units in the name of land reform in developing countries, while elsewhere the trend was to larger units. It was a transition stage through which developing countries must pass, he explained. As industry grows to absorb labor, then the smaller parcels will come together to form larger production units.

Also contributing to the two-day symposium, in which many world-renowned agriculturists participated, was Dr. C. P. McMeekan, Senior Agricultural Advisor to the World Bank. Voicing the opinion of most, Dr. McMeekan was convinced that the world had the resources of soil and credit to feed itself in the coming century, if the problems associated with the human and institutional resources could be solved.

## THE FARMER'S SHARE

*Here are some of the food items and the farmer's share of the retail price:*

PRODUCT	FARMER'S SHARE (%)
Beef, choice	60
Lamb, choice	56
Pork	51
Butter	71
Cheese, American processed	41
Ice Cream	24
Milk evaporated	43
Milk, fresh home-delivered	41
sold in store	46
Frying chicken	54
Eggs	57
Bread, white	19
Flour, white	35
Apples	31
Oranges	33
Cabbage	27
Carrots	23
Celery	31
Lettuce	34
Onions	29
Potatoes	37
Tomatoes	34
Peaches, canned	14
Beats, canned	7
Corn, canned	13
Orange juice concentrate	48
Peas, frozen	15
Margarine	28
Sugar	37
Spaghetti, canned	12

U.S.D.A.



Compiled by T. Pickup of the Information and Research Service,  
Quebec Department of Agriculture and Colonization.

*This month in the*  
**FAMILY FARM**  
*Section*

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Aid for Production of  
Pedigreed Seed

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Canadian Seed Growers  
Honour Three Quebecers

**PHOTOGRAPHS BY**  
**OMER BEAUDOIN**

## AID FOR PRODUCTION OF PEDIGREED SEED



**Mr. Raoul Bélanger of St-Placide in his field of wheat which he raises for seed. Requests for the seed are numerous.**

In view of the need and high cost of best-quality seed of the varieties of cereals specially recommended by the Quebec Seed Board, the Hon. Clément Vincent, Minister of Agriculture and Colonialization, has authorized payment of the following subsidies:

- \$0.20 a bushel for first generation Registered No. 1 seed;
- \$0.15 a bushel for second generation Registered No. 1 seed;
- \$0.10 a bushel for Certified No. 1 seed,

on all cereal seed of the said varieties produced in Quebec by farmers who are members of the Canadian Seed Growers' Association.

The producer's claim to the Plant Products Division at Quebec for payment of the subsidy must be accompanied by a copy of the *seed certificate* issued at the time of sealing by the Plant Products Division, Montreal, showing the kind, variety, grade, generation, and number of bushels sealed.

This subsidy applies to the 1967 crop.

ROMEO LALANDE  
*The Deputy Minister of Agriculture  
and Colonization.*



## "MINI" BULK TANKS ON TRIAL

Mini milk tanks, baby bulk tanks or, as the British Milk Marketing Board calls them, "Small Supplies Containers" may be the means of achieving 100% bulk tanker collection. They are the subject of an experiment by the Board through which it is hoped to find the best way of arranging bulk collection from producers whose peak output is 33 gallons or less a day.

Mr. Royce Ellemor, head of farm transport at Thames Ditton in England explained that the collection area for Norwich creamery is "reasonably average" in that from 25 to 30 percent of suppliers — which is about the national figure — produce 33 gallons or less every day.

Five mini-tanks have already been installed. The first has been in use for nearly two years; four of another type, made in this country, have been installed in the past two months.

Others, which have been seen by Board officials in continental countries, are currently being tested to find which is the most suitable, or can be adapted to be made the most suitable, for British models may eventually be included in the experiment.

Initially, 35-gallon containers

are being used, although larger sizes may be considered. They are supplied with either hand trolleys or frames suited to tractor towing to a convenient point for bulk collection.

The mini-tank stands in the farm dairy and is filled either by tipping milking buckets or by direct vacuum milking. After milking, a thermostatically-controlled immersion cooler is lowered into the tank. This brings the milk temperature down to 40°F and holds it there.

Just before collection time, the refrigeration unit is replaced by an outlet assembly which includes tank cover, outlet pipe, measuring dipstick and plunger. Later developments may include tanks with two apertures so that milking and cooling can operate simultaneously. The tank is trolleyed or towed to a collection point where the bulk tanker driver measures, plunges and samples the milk before connecting the tanker hose. The producer then takes the tank back to the dairy for hosing with cold water and detergent-sterilant washing.

The Ministry of Agriculture is co-operating by undertaking biological tests on the milk.

(From: *Farmer and Stockbreeder*)

## LEGAL IMPOSSIBILITY OF SETTING CEILINGS

"The question of setting ceilings on retail prices of food — similar to the government's recent rental restrictions — has been studied and found to be legally impossible," said Mr. Clément Vincent, Minister of Agriculture and Colonization, speaking at the annual district meeting of the Eastern Townships Chamber of Commerce. The meeting, which was held in the Bois-Franc Motel at Arthabaska, was attended by more than 300 delegates and their wives.

The Minister added that even if it were theoretically possible to set maximum retail prices for all categories of foodstuffs, it would never be possible to find enough officials to supervise the enforcement of the necessary legislation and impose penalties.

Mr. Vincent, who is MLA for Nicolet, also pointed out that, since many food items, for example beef and lamb, now have to be imported, legislation designed to fix retail food prices, without regard to the law of supply and demand, might interfere with the domestic market supply.

"Whichever way you look at it," said Mr. Vincent, "the setting of retail food

prices does not fall within the competence of the provincial government. It has only been possible in Canada on a national scale, in wartime and in conjunction with rationing." He also explained that the present retail price of fluid milk is a direct result of high cost of production on the farm and especially of the high cost of milk delivery to the consumer's home.

In conclusion, Mr. Vincent said that the government, in order to compensate to some extent for the rise in the cost of living and thinking particularly of people who are in a less favourable economic position, has introduced social legislation such as the reduction in income tax for single wage-earners earning less than \$2,000 and for married wage-earners with less than \$4,000 a year, and also the new provincial family allowance act, and the rebate of 50% of the contribution of self-employed persons to the pension plan.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

## RESEARCH GRANTS FOR AGRICULTURE

Last year, for the first time, a new form of federal assistance was available for agricultural research work carried on outside the Canada Department of Agriculture.

Grants similar to those made for many years by the National Research Council will be awarded annually by CDA in support of agricultural research. Additional funds are being made available to the department for this purpose.

Last year the department distributed a total of \$304,660 among eight universities and colleges. This was the full sum available for the purpose that year. There were 155 applications for the grants which went to 71 professed heading projects at the eight universities and colleges.

Allocation of funds was made by CDA's Operating Grants Committee made up of senior officials of the Research Branch and deans of faculties of agriculture. Recipients were University of Alberta, \$50,940; University of British Columbia, \$27,000; University of Guelph, \$55,670; Laval University, \$23,300; Macdonald College, \$41,700; University of Manitoba, \$44,500; Veterinary College of the Province of Quebec, \$8,000; University of Saskatchewan, \$53,550.

## NEW METHOD FOR CANNING APPLES

Canned apples may now be prepared for dessert use with a new method which combines techniques available to even the smallest processor, but which requires no new and expensive equipment. It was developed at the CDA Experimental Farm, Smithfield, Ont.

To use the method, core, dice or cut apples into chunks and cook in 35 per cent hot syrup under vacuum for several minutes. Remove apple pieces from the syrup, fill cans, and fill off with apple juice of the same variety. Then vacuum-seal the cans and process as usual.

Several varieties have been tested for this pack, including McIntosh and Northern Spy. Results with McIntosh are of particular interest, because this variety is usually plentiful. It is firm, has good color and excellent texture and flavor in the final product.

When juice was substituted for syrup, a very favorable pack resulted, characteristic of the variety being processed.

This produce would be at least equivalent to standard apple sauce for dessert use.



# LAWN WEEDS



Getting ready to mow the spacious lawn on a Quebec farm.

Weeds have sometimes been defined as plants growing in the wrong place, observes a CDA researcher.

And homeowners, facing another seasonal struggle to keep them out of their lawns, probably would agree with the definition.

But the situation could be a lot worse, points out G. A. Mulligan of the CDA's Plant Research Institute. Although the list of weeds in Canada is a fairly lengthy one, only a few species are adapted for growth in lawns.

Of the lawn weeds, the most troublesome are the perennials, like the dandelion, that have their growing points almost at ground level and produce their seeds close to the soil surface. These weeds persist year after year despite repeated mowings of the lawn. Other perennials, like yarrow, that normally have flowering stems a foot or more high can survive repeated cutting and

persist in lawns as low vegetative mats that never flower.

Many annual weeds appear in newly seeded lawns but most are eliminated after the lawn has been cut a few times. Mowing, however, will not get rid of some of those having their leaves and flowers near the ground — annual chickweed, black medic, the annual speedwells, and the crab grasses.

Although the kinds of weeds that pose a problem in lawns are relatively few in number, they are well adapted for growth in this habitat and, accordingly, are very difficult to eradicate, Mr. Mulligan points out.

The development of the selective herbicide 2,4-D provided the first effective method of eradicating many broadleaf weeds, like dandelion and plantain without harming the grass. More recently, other selective herbicides have been introduced and these enable the homeowner to keep his

lawn free of almost all broadleaf weeds and many of the grass weeds.

The researcher lists some pointers in using these chemicals:

- Apply a herbicide only in the amount recommended on the container label.

- Use of a pressure sprayer having a capacity of several gallons is recommended. This method gives the most effective results and is the most economical to use.

- Since herbicides are designed to kill plants, care is needed to make sure the spray does not come in contact with ornamentals or vegetables growing nearby.

Proper turf management still remains the most effective way to control lawn weeds, the researcher emphasizes. Use of a herbicide will eradicate weeds already growing in a lawn, but only a strong, vigorous turf will prevent another invasion by them.

## BETTER COUNTED BY ELECTRONICS

An electronics specialist with the CDA Engineering Research Service here and an entomologist with the department's Research Station at Winnipeg have teamed to develop a device that counts the number of beetles in samples of grain and flour.

Development of the electronic counter was the work of E.J. Branch, an electronics engineer, and Dr. F.L. Watters of the Winnipeg research staff.

The machine, now being used at the Winnipeg station, not only counts

the beetles but also makes it easy to pinpoint the periods when they are most active. It was developed to help entomologists in their studies of the behaviour of insect pests of stored grain and flour. Such studies are an important aspect of efforts to formulate improved methods of controlling the insects. The procedure using the new device capitalizes on the fact that a beetle, when thirsty, becomes extremely sensitive to moisture and will seek it out.

To keep tabs on beetles electronically, a grain sample is placed in a container equipped with a wire-mesh tube containing a moist sponge or dish of water. The beetles are attracted from the grain and begin to climb toward the source of moisture. In doing so they tumble down a chute, passing through a light beam aimed at a photo-electric cell. The resulting interruptions in the beam actuate the electronic counting device.



## FIELD CROPS AREA, PRODUCTION AND VALUE 1966

The Agriculture Section of the Quebec Bureau of Statistics publishes an estimate of the production of the principal field crops in the Province of Quebec for 1966.

The estimates of areas sown are obtained through surveys carried out in early June by means of questionnaires which are distributed to the farmers directly. Our Bureau does the sorting and the pairing of reports. The final estimates are determined by the Federal and Provincial Bureau of Statistics jointly, after the data have been analyzed.

Production figures are based on the yields per acre as reported by a group of crop correspondents scattered through the Province. The value per unit assigned to each crop in 1965 is based on the average prices paid to farmers from August 1, 1965 to July 31, 1966.

Moreover, it should be borne in mind, in interpreting this report, that the estimate of the value does not represent the cash income from sales but the gross farm value. Several crops, such as mixed grains and fodder corn, are almost entirely consumed on the farms where they are produced. The average prices of these crops, determined by the very small quantities sold, are applied to the total production of each crop, this represents the gross value. Although they add very little to cash income, these crops increase the gross value of the field crops.

### Summary

In 1966, the area under field crops was 4,894,032 acres as compared with 4,896,623 acres in 1965, a slight decrease of 0.05 per cent.

Production of oats, rye, mixed grains, buck-wheat, dry peas, potatoes, tame hay, fodder corn and tobacco was heavier in 1966 than in 1965. As regards dry beans the production was the same as last year and lower for the other field crops.

The larger crop of tobacco was due to an increase of the area under cultivation; the yield per acre was the same as in 1965. As regard rye, mixed grains, dry beans, tame hay and fodder corn the heavier crop for 1966 was due to both a larger area and a better yield per acre. In spite of a decrease in the area, oats and buckwheat showed a large crop due to an increase of the average yield per acre. The slight increase of the potato production was due to a better average yield per acre; the area was the same as in 1965. The dry beans production was the same as in 1965 due to a drop in the

area which was not compensated by a better yield per acre. Wheat and barley productions were lower than in 1965 due to a drop of the area under crop and in spite of a heavier yield per acre. In so far as flaxseed field and sugar beets are concerned, the lower crops registered in 1966 were due to both a lower area and a decrease of the average yield per acre.

The final estimate of the value of field crops for the 1965-1966 crop year is \$183,639,000 compared to \$187,796,000 for 1964-65, a decrease of 2.22 per cent.

**WHEAT:** The wheat crop for 1966 is estimated at 292,000 bushels as compared with 298,000 in 1965, a decrease of 2.02 per cent. The 1965 production is valued at \$498,000 representing an average price of \$1.67 per bushel, this taking into account the average price received by farmers for the whole 1965-1966 crop year.

**OATS:** Estimated at 47,324,000 bushels in 1966, the oat crop shows an increase of 12.8 per cent compared with 41,940,000 in 1965. The 1965 production is valued at \$37,327,000 for an average price of \$0.89 per bushel.

**BARLEY:** The 1966 barley crop is estimated at 485,000 bushels and represents a decrease of 7.8 per cent from the 526,000 bushels of 1965. The value of the 1965 production is estimated at \$636,000 for an average price of \$1.21 per bushel.

**RYE:** The rye crop for 1966 is estimated at 78,000 bushels, 13.0 per cent more than the 69,000 bushels of 1965 which were valued at \$76,000 or \$1.10 per bushel.

**MIXED GRAINS:** Estimated at 4,006,000 bushels, the mixed grain production for 1966 shows an increase of 27.3 per cent from the 3,146,000 bushels yielded in 1965. The value of this crop in 1965 was 3,618,000, an average price of \$1.15 per bushel.

**BUCKWHEAT:** 354,000 bushels of buckwheat were harvested in 1966, representing an increase of 59.5 per cent from last year's 222,000 bushels which were valued at \$266,000 or \$1.20 per bushel.

**DRY PEAS:** The 71,000 bushels of dry peas yielded in 1966 represent an increase of 7.6 per cent over the 66,000 bushels of 1965 which were estimated at \$4.60 per unit for a gross value of \$304,000.

**DRY BEANS:** In 1966 the dry beans production was estimated at 14,000 bushels, same as the 1965 crop which was valued at \$66,000 or \$4.75 per bushel.

**POTATOES:** The potato crop amounted to 7,455,000 cwt. in 1966 and was 3.0 per cent over the estimated 7,239,000 cwt. of 1965. The

gross value of the 1965 crop was \$17,808,000 or \$2.46 per cwt.

**TAME HAY:** The 6,906,000 tons of tame hay produced in 1966 represent an increase of 67.1 per cent from the 1965 crop which stood at 4,132,000 tons. The gross value of this crop in 1965 is estimated at \$109,498,000 or \$26.50 per ton.

**FODDER CORN:** Estimated at 825,000 tons in 1966, the fodder corn crop shows an increase of 31.2 per cent from the 629,000 tons of 1965. The 1965 production is valued at \$4,403,000 or \$7.00 per ton.

**FIELD-ROOTS:** The 1966 field-root crop at 36,000 tons was down by 12.2 per cent as compared to the 41,000 tons of 1965. The 1965 crop is valued at \$820,000 or \$20.00 per ton.

**SUGAR BEETS:** In 1966, the sugar beet production totalled 130,000 tons, 18.8 per cent less than in 1965, when the output reached 160,000 tons valued at \$2,930,000.

**TOBACCO:** The production of all types of tobacco is estimated at 12,249,000 pounds in 1966, an increase of 13.1 per cent compared to the 9,367,000 pounds in 1965. The gross value of tobacco produced in 1965 and 1966 is estimated respectively at \$4,135,000 and \$7,125,000.

**FLAXSEED:** The 1966 crop of flaxseed is established at 299,000 bushels in 1965, which was valued at \$1,254,000 or \$2.85 per bushel.

## ELECTED PRESIDENT

Dr. Harold R. Klinck, 44, was elected president of the Canadian Seed Growers' Association at the annual meeting held at Laval University, Quebec, June 26, 27 and 28, 1967.

Dr. Klinck has been a member of the board of directors of the C.S.G.A. for 10 years and is associate professor of agronomy and plant breeder at Macdonald College, Quebec.

He was born and raised at Gormley, Ontario, graduated from O.A.C. Guelph, Ontario, and received his Ph.D. Degree from Macdonald College where he developed the varieties Dorval oats and Champlain barley.

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## JUDGES APPOINTED FOR SETTLERS MERIT CONTEST

Mr. Clément Vincent, Minister of Agriculture and Colonization has announced the appointment of the judges for the 1967 Settlers Merit Competition (le Mérite du Défricheur). The panel will consist of Mr. Roger Michaud, Agronome, president; Mr. Gérard Bouchard of Villemontel (Abitibi-East) who is a Commander of the Order; and Mr. Albert Daigle of Alleville (Matapédia).

For the purposes of the Settlers Merit competitions the province is divided into three regions. This year the contest is open to settlers in the third region comprising the counties of Gaspé-North, Gaspé-South, Bonaventure, Matane, Matapédia, Rivière-du-Loup, Kamouraska, Témiscouata, and Rimouski. Mr. Albert Daigle of Alleville, Matapédia, was the winner of the gold medal in 1964, the last time the competition was held in this region.

The Order of Settlers Merit was founded in 1950 and it has held an annual contest each year since then.

## EXPO CORPORATION TO MAKE CHEESE

The Minister of Agriculture and Colonization, Mr. Clément Vincent, has announced that the Expo 67 corporation is fully authorized to make cheese.

The necessary permit, issued by the Quebec Agricultural Marketing Board under the terms of the Dairy Products Act, authorizes the Expo Corporation to operate a Cheddar cheese factory at the Man the Provider Pavilion for the duration of the exhibition.

## "B" HOGS — THE REASON

In March of this year, overfinish was the major reason for B hogs not making the A grade. According to the Canada Department of Agriculture's semi-annual scale ticket survey, 96% of the B hogs within the A weight range were downgraded for too much fat. Overfinish was noted on 97% of eastern B hogs and on 95% of western hogs. Type was the reason in 3% of the cases with eastern hogs 2.9% and western B hogs 3.4%.

Twenty percent of the B grade hogs were over the A grade weight range (135-170 lb.) and 8% were under it. Of the hogs graded C, 17% were over and 4% were under A grade weights.

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Department of Agriculture and  
Colonization.

## CANADIAN SEED GROWERS HONOUR THREE QUEBECKERS



A. Auger

A. Charbonneau

A. Brault

As a token of recognition for their services to the C.S.G.A. and the farmers in promoting the use of pedigreed seed, three Quebecers, Mr. André Auger, Mr. Anthime Charbonneau and Mr. Henri Brault, were honoured by the Canadian Seed Growers Association during its annual meeting held at Laval University on June 26th, 27th and 28th.

**Mr. André Auger**, who was awarded an honorary life membership in the C.S.G.A., was born at Les Ecureuils in Portneuf County in 1897. Following his elementary schooling he took classical studies leading to the degree of B.A. Three years later he obtained the degree of B.S.A. at the Agricultural College of Ste-Ann-de-la-Pocatière and since then has had a long and distinguished career with the Quebec Department of Agriculture and Colonization. He is a member of the Canadian Society of Argonomy, the Quebec Seed Board and the Crop Insurance Committee of the Province of Québec, and is now vice-president of the Quebec Farm Credit Bureau.

**Mr. Anthime Charbonneau**, who was also awarded an honorary life membership in the C.S.G.A., was born at Ste-Thérèse de Blainville in 1900 and obtained his bachelor's degree in agriculture in 1920 and, since then, has been associated with the agricultural representatives' service of the Quebec Department of Agriculture and has also served on many committees and boards connected with agriculture. He was chairman of the Quebec Seed Board for ten years.

Mr. Charbonneau was responsible for establishing Climax timothy in Joliette County, which was the centre of pedigreed seed production in Quebec for many years, and also in large measure for the multiplication of pedigreed seed in the province and the steadily increasing use made of it by Quebec farmers.

**Mr. André Brault** was awarded the title of Robertson Associate of the C.S.G.A. He is a farmer who has set an example in his region as a producer of pedigreed seed and continues to do so. He is a prominent oat grower but is also very interested in the production of hybrid grain corn. Mr. Brault has won the Provincial barley-growing championship, was awarded a silver medal in the Quebec Agricultural Merit Contest of 1950, and, five years later, placed third among the competitors for the gold medal in the contest. He takes an active part in the affairs of his community and is at present Chairman of the local branch of the U.C.C. (the Catholic Farmers Union).

It is a pleasure for us to recall the names of other Quebecers who have been honoured by the C.S.G.A. on previous occasions, namely Mr. Paul Méthot and Mr. Robert Thomas, honorary life members of the Association, and Mr. Alphonse Beaulieu, Mr. Georges Larocque, and Dr. E. A. Lods, Robertson Associates.



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## Diploma Course In Agriculture AT Macdonald College

**OPPORTUNITY** — a revised two-year course in agriculture commencing mid-September, 1967 to prepare young men and women for challenging careers in agriculture on or off the farm.

**THE COURSE OF STUDY** — includes breeding, feeding and management of livestock, soils and crop production, the production of horticultural crops, farm planning, farm management and agricultural economies, agricultural engineering, communications and leadership, and others.

**THE ENTRANCE REQUIREMENTS** — are Grade XI Quebec High School Leaving Certificate or the equivalent with a minimum of 8 passes including a mathematics and a science subject. Applicants should have a practical knowledge of farm operations. Minimum age is 17. Older applicants (20 years and over) without the full academic requirement may be considered.

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**To The Registrar**  
**Macdonald College, P.Q.**

Please send me information on the Diploma Course in Agriculture at Macdonald College.

**NAME** .....

**ADDRESS** .....

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## - 1967 - 82nd ANNIVERSARY OF THE Canada's Great Eastern Exhibition

IN SHERBROOKE FROM  
the 26th to the 31st of August,  
IN THE HEART OF EASTERN TOWNSHIPS  
HOLIDAY WONDERLAND.

EDUCATIONAL AND ENTERTAINING EVENTS  
THROUGHOUT THE SIX DAYS.

HUGE BINGO THE PREVIOUS EVENING, FRIDAY  
AUGUST THE 25th.

THE LARGEST DISPLAY OF LIVESTOCK IN THE  
EAST OF CANADA.

GREATEST EXHIBITS IN THE POULTRY DEPART-  
MENT.

AGRICULTURAL EXHIBITION AT ITS BEST:  
FLOWERS, FRUITS, VEGETABLES, FIELD CROPS  
DAIRY PRODUCTS, MAPLE AND HONEY, IN THE  
ARENA WINGS.

JUDGING, BEGINS SATURDAY MORNING AND  
WILL CONTINUE THROUGHOUT THE WEEK.

LIVESTOCK PARADE IN THE ARENA, WED-  
NESDAY EVENING.

SPECIAL JUNIOR COMPETITIONS ON MONDAY,  
TUESDAY AND WEDNESDAY. OVER 100 CALVES  
BY 4-H CLUB MEMBERS.

INDUSTRIAL AND COMMERCIAL EXHIBITS IN  
THE MOST MODERN BUILDING THE NEW "PA-  
LAIS DES SPORTS".

HANDICRAFT, ARTS, COOKING AND ALL LA-  
DIES' WORK WILL PROUDLY BE SHOWN ALSO  
IN THE "PALAIS DES SPORTS".

CONKLIN MIDWAY IN OPERATION ON THE  
GROUNDS ALL WEEK.

MONDAY WILL BE CHILDREN'S DAY, FREE EN-  
TRANCE AND SPECIAL PROGRAMME IN THE  
AFTERNOON IN FRONT OF THE GRAND STAND.

SENSATIONAL VAUDEVILLE ATTRACTIONS, IN  
FRONT OF THE GRAND STAND ON SUNDAY,  
MONDAY AND TUESDAY EVENINGS.

HARNESS RACING, SATURDAY EVENING, SUN-  
DAY AFTERNOON, WEDNESDAY AND THURS-  
DAY EVENINGS.

THREE ORCHESTRAS IN THE ARENA, SUNDAY  
AFTERNOON.

DRAWING OF AUTOMOBILE, WEDNESDAY EVE-  
NING AT 10.30 p.m.

Len. E. O'Donnell,  
President.

Everett Nicol, & P. E. Sylvestre,  
Vice-Presidents.

J. Eug. Lamontagne,  
Sec.-Treas.





# THE BETTER IMPULSE

News and Views of the Women's Institute of Quebec



Shawville WI planted a Red Maple in the Park, as their Centennial project. President Mrs. Keith Hodgins (left) stands beside C. Ganissson, president of the Rotary, Secretary Mrs. Turner also holds the spade, and at the right is Mrs. Ganissson, treasurer of the branch.

meeting. Prizes and points to be awarded for each competition. Member with the highest number of points at the end of the year, to receive silver spoon.

## BOYS WILL BE BOYS

Some time ago there was a dancing party given in Wisconsin. Most of the ladies present had little babies, whose noisy perversity required too much attention to permit the mothers to enjoy the dance. A number of gallant men volunteered to mind the young ones while the parents indulged in a "break down".

No sooner had the mothers left the babies in the charge of the mischievous rogues, than they stripped the infants, changed their clothes, giving the apparel to one another. The dance over, it was time to go home, and the mothers hurriedly took each a baby in the dress of her own, and started to their homes, some ten or fifteen miles off, and were far on their way before daylight.

But the day following there was a tremendous row in the settlement; mothers discovered that a single night had changed the sex of their babies, observation disclosed physical phenomena and then commenced some of the tallest female pedestrianism; living miles apart, it required two days to unmix the babies, and as many months to restore the women to their natural sweet dispositions. To this day it is unsafe for any of the baby mixers to venture into the territory.

## LACHUTE SPRING FAIR

Without a doubt, June 15th was one of the warmest days this summer. Despite the heat and high humidity, Argenteuil W.I. members attended the Lachute Spring Fair. Thirty of those attending wore Centennial Gowns. Mr. Ken Riley, welcomed the ladies to the grandstand where a picnic lunch was enjoyed. The dresses the ladies wore created a great deal of interest.

Many of the gowns worn had been made recently, while others had been treasured over the years. Mrs. Erskine and Mrs. Donald Rodger had the difficult task of naming the prize winners. Tied for first place were Mrs. C. Pollock and Mrs. S. Wilson. Mrs. Pollock wore a cape (Dolman) which was over 150 years old; Mrs. Wilson's bonnet and shawl were also 150 years old. Second and Third prize winners were Mrs. E. Burke and Mrs. D. McVicar for their very pretty creations. Mrs. E. Kettle braved the heat to wear a dress which was about 85 years old. After lunch the ladies toured the grounds and buildings. Modern fashions, so much in the news today, have one definite aspect in their favour: "they are cool!" compared to those worn a century ago — ask any of the ladies who wore those long dresses on a warm summer's day.

Mrs. K. Warwick,

County Publicity Convener.  
Argenteuil.

## OUR FARAWAY SISTERS

From 'Home and Country' a newsletter from Rhodesia, we took this gem from one branch news. "Be what you are, Give what you can, The rest of the time mind your own business".

And hints for programs: Gwanda and Colleen WI, Rhodesia — International Meeting: display of objects and pictures from other lands. Guess from what country each came.

Each member brought an apron: members placed 6d in the pocket of the apron they liked best and the owner of the apron with the most 6d's won the prize.

And from Hillside WI, Rhodesia — extracts from their monthly newsletter: 1. A FACE LIST for the General Meeting. Less business and fewer arguments (these to be done in committee). 2. COMPETITIONS at each



Several members of Stanstead North W.I. were honoured recently for their long and valued membership in the branch by being presented with 25-year pins. Photo shows Mrs. T. Goodsell, who joined in 1935 (seated left); Miss Mary Flint, 1936 (in wheel chair); Mrs. Miriam Osborne, 1930 (standing). In the back row, from left to right are Mrs. Edgar Hill (1939), Mrs. Burton Hill (1934), Mrs. Grace Taylor (1941) and Mrs. Douglas Cooper, branch president, who presented the pins.



Our Mrs. Prinn of the QWI Office is another of our poetesses, and although she didn't submit this to one of the contests, we think it is pretty good. So here it is:

## SING A SONG OF CANADA

*Sing a song of Canada, eighteen sixty-seven,  
Four little provinces, struggling under heaven.*

*But*

*Our Canada has grown and grown until in point of size  
It's next to the world's biggest, and that's hard to minimize.  
One-third the world's fresh water seems more than our fair share,  
And, to add variety, we've three oceans to spare.  
We've the world's mightiest rivers and the greatest of Great Lakes;  
The world's best potatoes and the very finest steaks;  
We've got peaches, pears, and apples of which MacIntosh is chief;  
We have miles and miles of wheatlands and forests past belief.  
We make miles and miles of newsprint and aluminum by the ton —  
We have the ONE aluminum bridge, just to show what can be done.  
Our winters are stupendous with the grandest skiing slopes,  
And tho' spring's a bit reluctant, we have the highest hopes;  
Our autumn's the most gorgeous with the colour of the trees —  
The like of which you've never seen in any parts but these;  
And in our summer season, sure we don't need the tropics,  
All this makes our weather the most interesting of topics.  
We've all the world's asbestos, silver, gold and nickel, wow!  
You name it and we've got it, or we'll get it somehow.  
We've the world's greatest inland port, a thousand miles from sea  
With its lovely town of Montreal — a rival of Páree.  
We've got the Royal Mounties, John Diefenbaker too,  
Mr. Pearson, Mr. Hellyer and Raoul Caouette, Mon Dieu!  
Our soldiers, sailors, airmen now sport a brand new sheen —  
I suppose that come next springtime, we'll be wearing navy GREEN.  
Now in nineteen sixty-seven we have Le Grand Expo  
And the man who had the vision — the dynamic Mayor Drapeau.  
(We have everything at Expo — this includes the kitchen sink,  
Tho' what's happened to Ile Sainte Hélène, I do not care to think.)  
We're a very modest people and we never, never boast  
So every word of this is true — well every word, almost;  
And now that I have sung my song, I'm sure that you will see  
W H A T E V E R the rest of the world may have, IT'S CANADA FOR ME!  
And now*

*Sing a song of Canada, nineteen sixty-seven —  
TEN BIG PROVINCES, surely blessed by heaven!*

## WITH COURAGE AND FAITH . . .

*Mrs. Emmett Cleland, Hemmingford, sends us Mrs. James Churchill's account of her early life:*

"I well recall a few incidents relating to the pioneer life of my father and mother, born in Ireland, married in 1805 and emigrated in the year 1828. My brother, John Kearns, was about one-year-old at the time.

"It took them nine weeks in a sailing vessel to cross the ocean. They encountered a tempestuous storm which somewhat disabled the ship and at one time all hope was abandoned of being able to reach the harbour. They finally landed safely at Montreal and continued on to Hemmingford, where they located and lived their entire life on the old homestead.

"Many were the hardships that they had to encounter, as their home was in a dense forest. They first cleared about half an acre on which they built a log shanty. Innumerable were the privations in every way. There were no hinges to be had for their shanty door. Consequently they were obliged to secure it at night by placing props against it as the wolves were in large numbers at that time; mother often said that she could not sleep nights on account of them, and in the

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morning their tracks would be seen all around the shanty.

"The main roads were then very rough and where they were, swampy logs were laid crossways to make them passable. The oxcart was the only conveyance. Double wagons were not to be had and carriages unheard of.

"The nearest post office was at Laprairie, some thirty miles distant. Every three months the neighbors would go in turn to post the outgoing mail and bring back what belonged to the neighborhood. A newspaper was quite a curiosity.

"However, my father became the happy owner of a horse; ready-made harness was not available and all that could be obtained was made by hand and it took a long time to produce a set. However, for expediency, he made a harness out of elm bark and a commodious wood-shod sleigh, with which he could pursue his journey when business or pleasure called his attention. On one particular occasion he took some of the young people of the neighborhood to spend the evening about eight miles from home, as it was quite a treat to ride after a horse instead of an ox. They spent a very pleasant evening and were all in the sleigh to return home. The bark harness was somewhat worn and could not stand any extra strain. Father started the horse too briskly and to their surprise the harness broke, freeing the horse who wended his way home without any encumbrance."

• • •

Emmet Cleland's own grandfather, William Barr, and his brother John set sail with their parents in 1830 for the voyage to Canada. They were three months on the way and the parents died and were buried at sea. The brothers arrived with, among their possessions, thirty linen shirts as they didn't expect to be able to get any here.

Later William had bought cloth to have a coat made for his wedding, but at church one Sunday he saw a man with a coat he liked much better than his so he decided to walk to Montreal and have the cloth changed. He started early in the morning, took a boat at Laprairie, changed his cloth and walked home, returning late that night, a distance of forty miles each way.

Mrs. Cleland concludes her anecdotes:

"All honor is due to our ancestors who valiantly fought the heroic battles with axes and saws in opening up the country for cultivation, laying the foundations of civilization and progress, founding the first churches and schools, and fostering the beginning of industry and commerce."



# The Month With The W. I.



**ARGENTEUL:** Arundel members gave the year they were born in French; a local girl, Miss Donna Lynne Graham, graduate in Home Economics, gave a very fine demonstration on Ice-Cream Summer Desserts. **Brownsburg** held a supper meeting outdoors at the home of a former member; a large group attended, enjoying the warm weather; the Fair was discussed and plans made for summer meetings.

**Dalesville-Louisa:** Rollcall — what have I done to interest others in the W.I.; welcomed three new members; Mrs. C. Hall, County President spoke briefly; Mrs. F. Zimmer, Provincial Convener of Agriculture, spoke on W.I. History and its progress through the years; County Convention reported; Christmas Stockings made. **Frontier** had Mrs. Burkeas guest, who spoke on the early schools in Lachute, St. Andrew's and surrounding district; pictures of these proved most interesting; several members wore Centennial gowns. **Lachute** held their Agriculture meeting under convenership of Mrs. Davidson, at the lovely farm home of Mrs. G. McGibbon; Mrs. G. Leggett gave a very interesting report of the County Convention, giving highlights of the year's work; after the meeting, the ladies toured the farm and saw amongst other things, a two-day old calf. **Pioneer** at their Home Economics meeting answered rollcall by naming a new kind of material and its use; Mrs. G. Rodger gave an excellent report on the Annual Convention; other reports were heard on Citizenship Day, New Aspects of Farming, Fair Work, FWIC; Christmas Stockings sent; several "Guest Books" ordered; donation made to local girl to continue ballet lessons; Mrs. A. Cowan pieced, quilted and donated a quilt which will be sold to raise branch funds; plan to have "dinner out" as a summer meeting. **Upper Lachute East End:** Rollcall — What I look for first in The Watchman; a new member was welcomed; reports heard on Convention, also on the current events book now in circulation at the Library (Carrefour du Livre de Lachute); article on rhubarb read, telling of danger of leaves to the kidneys; WI Day at the Fair discussed; Pennies for Friendship collected; Mrs. Hodgson, Publicity Convener, had as guest speaker, Mr. Robert Dawson, who gave a most informative talk on publicity,

with emphasis on the changes which have been made during the years, especially the speed with which TV gets news to the people.

**BROME:** Abercorn assisted a family who lost their home through fire; contest on garden seeds by Agriculture Convener, won by Mrs. E. Sherrer and Mrs. H. Page; excellent report by Mrs. H. Page of the Annual County Convention; for rollcall each member brought a dozen cookies which were then auctioned. **Austin** entertained County President, 1st Vice-President and Provincial Convener Citizenship; good report of County Convention; planned August Garden Party; filled Christmas Stockings.

**Knowlton's Landing:** Mrs. G. Patton, County President, Mrs. Westover, Mrs. Page and Mrs. Sherrer were guests; Christmas Stockings filled.

**South Bolton:** each member read or spoke on Agriculture; contest on number of words made from word agriculture, won by Mrs. R. Coates, conducted by Mrs. M. Davis; filled Christmas Stockings.

**CHATEAUGUAY - HUNTINGDON:** **Dewittville** held discussion on Woodlot Assistance Program to which they are giving time and energy; demonstration of Cuisinaire Method of teaching arithmetic by Miss A. McIntosh. **Dundee** sent handicraft articles for display at Convention. **Franklin Centre** filled Christmas Stockings. **Ormstown:** showing of old photos, remembrances of your grandmother, dresses etc. of their time, Dolman and hat modelled by a member, a nightdress and nightcap by another; planted a flowering crab tree in the park, to replace the one planted a year ago as a Centennial project, which was destroyed by vandals.

**GASPE: Douglastown:** for rollcall, named an outstanding Canadian woman; EIGHT new members were welcomed; Bingo held for children proved a success; each member brought in a Christmas stocking.

**Gaspe:** rollcall named a Father of Confederation; contest on how many words from "Canada's Centennial"; several interesting articles read A Summer Treat — another Woman's Baking, Queen invites the Windsors to family ceremony, Religion made a School Option, Gardening Do's and Don't's, with plants; contributed to County Scholarship; Christmas Stockings filled. **Mur-**

**dochville** brought magazines to be given to hospital; contributed their share of the County Scholarship and gave school prizes; filled Christmas Stockings; held successful food sale; sold a Hudson's Bay blanket to raise funds. **Sandy Beach** held exchange of seeds; each member named her birthstone and flower. **York** heard valuable hints on watering houseplants; articles handed in to stock the First Aid Kit for Fort Haldimand Camp; held Chinese auction; heard reports on National Days at Expo, and on the Arab-Israeli War; interesting facts told about Quebec and Ontario by each member; over \$200 realized from the sale of their Centennial quilt; donations made to County Scholarship and to school prizes, and to Girl Guides' trip to Expo; Christmas Stockings filled.

**GATINEAU:** Aylmer held a Centennial Project in South Hull School, won by Bill Dorman and Dale Paton. **Eardley** had a bee to quilt Centennial Quilt. **Rupert** members are going to Expo by charter bus; painting and repairing W. I. Hall. **Wakefield** visited the home of Mr. and Mrs. Reginald Hale Low which has been restored to "Canadiana". **Wright** had several readings re Agriculture, and held a Centennial Contest.

**JACQUES CARTER:** Ste. Annes: A charming V.O.N. nurse, one of two for the district of Dorion to Beaconsfield, which includes 45,000 people, told of their work and the contacts and other organizations upon whom they can call for assistance with their patients; Branch visited Expo, meeting together for a picnic lunch; Mrs. Smith brought her Expo guest Mrs. McAlpine of N.B., who is going on to Guelph and the FWIC Convention; a member left for month's holiday in her homeland, Scotland.

**MEGANTIC: Inverness** for rollcall gave a sewing hint; each member brought a "treasurer" and told why it was so valued; held a card party; are working on a Centennial Quilt; will go by charter bus to Expo.

**Kinnear's Mills:** for rollcall told what each was doing for Centennial Year; donations sent to Sherbrooke Hospital and to "Care"; packed Christmas Stockings; ideas on a Centennial Project suggested.

**MISSISQUOI:** Good attendance at County Convention, with all branches



receiving reports of it from their delegates. **Cowansville:** each member named a flower or plant and described its culture; this led to a discussion of various gardening problems; renewed sponsorship of a child in British West Indies. **Dunham:** Centennial pins given to members; donation to Girl Guides; arranged bus trip for County to Expo. **Fordyce** unveiled a memorial cairn at W.I. Picnic Plot; listed names in Piercetown Cemetery as historical project. **Stanbridge East** held true-and-false contest on medicine and health; brought handmade articles to be sent to Convention for display; Citizenship Convener suggested that members should wear their W.I. Pins at Expo, and that they should display the Canadian Flag during this Centennial Year.

**MONTCALM: Rawdon** enjoyed a visit from QWI 1st Vice President, Mrs. McGibbon, who gave some interesting and enlightening information regarding our provincial organization; also a few highlights of her ACWW trip to Ireland, with display of souvenirs which were most intriguing; packed Christmas Stockings; planned for annual tea and sale in August; had as guest, Mrs. Wootten from Renhold, Bedfordshire, England, visiting out president to see Expo; Mrs. Wootten is member of a WI branch with 85 members, and passed on to us some very good ideas for our meetings.

**PONTIAC: Bristol:** Agriculture Representative spoke on the Milk Program; auction sale of plants and bulbs; member gave a talk on Expo, another member a reading; rolcall gave short cuts to housecleaning; Centennial Flag donated to our branch; held a dessert party; wrote history of the branch from 1933-1967. **Fort Coulonge** as a summer project are looking after a large flower plot in the cemetery; filled Christmas Stockings; each member gave garden suggestions and named a Provincial Flower. **Quyon** heard talk on Centennial projects, and on Flower Boxes and their care. **Shawville** held their meeting at a cottage at Norway Bay, with some modelling old costumes; heard wonderful talk on Health by Mrs. Jacques indicating that Canada ranks high in some medical areas. **County Drama Contest** was held at Quyon with three branches presenting plays; plays were greatly enjoyed, and Shawville's was selected to be presented at QWI Convention. **Wyman** continues working at Roadside Picnic Area, and are now installing a pump; saw slides on Mexico, Jamaica and Upper Canada Village; received readers' guide to Flammable Fabrics; Rolcall: "Canada, From Sea to Sea"; named Prime Ministers of Canada; held Centennial Quiz; suggestions on How To Keep Peace; sheets and pillow cases trimmed with

liquid embroidery; filled Christmas Stockings.

**RICHMOND: Cleveland** held a display of antiques; members were dressed in old-fashioned clothes; entertained Richmond Hill Branch; held a "swap contest", heard several readings. **Gore** filled Christmas Stockings; sent diapers to Cecil Butters Home; renewed CAC membership; Mrs. R. Johnson reported on the Leadership Course which she attended; held contest on Canada's Health Rules, won by Mrs. N. Mountain; heard articles on Kindness to Strangers, How Spanking Can Hurt the Brain, and an article on the U.N. Pavilion at Expo by Mrs. M. Thom; more cancer dressings, bed shirts and bed socks turned in. **Richmond Hill** members were each given Centennial Cosmos seeds; their centennial project is to paint their W.I. Hall; Citizenship Convener gave reading on "Unfortified Border Birthday"; held a social evening and sold two blankets; contest on making the most words from letters in "Centennial Year." **Richmond Young Women** entertained the County Convention; presented gift to member who is leaving the community; held spelling bee. **Spooner Pond** for rolcall named a member of Parliament; gave out seeds for Children's Fair; sent Christmas Stockings; distributed pamphlets on Smoking As a Cause of Cancer; heard report on Leadership Training Course and on County Meeting by Mrs. W. Parkes; drawing won by Mrs. E. Lancaster.

**ROUVILLE: Abbotsford** enjoyed meeting with Mrs. V. Beattie as guest speaker; luncheon was at Les Pins.

**ROUYN-NORANDA: Farmborough:** Interesting article read on W.I. work in Northern Canada, Northwest Territories and the Yukon.

**SHEFFORD: Granby Hill** had a member attend the Leadership Course; good report on the Board meeting by County President; contest on education. **Granby West:** gave blankets, made out of donated materials, to Cecil Butters Home; donated to Cancer Dressing station; contest on Agriculture; entertained other branches at the County Annual Meeting. **Waterloo-Warden** held contest on history, and on men and women in Parliament; brought in Christmas Stockings. **Shefford County** Annual Convention was well attended, with Mrs. V. Beattie as guest of honour; many members in the County have attended Expo.

**SHERBROOKE: Ascot** reports Mrs. E. Roy of Vancouver, formerly of Lennoxville, gave an interesting talk; Mrs. D. McElrae presided over the sale of garden perennials and house plants; heard an article on the Children's Creative Centre at Expo. **Belvedere:** heard detailed report of the Annual County

Meeting by the delegate; members rejoined in their 50th Anniversary celebration, and many have good photos to remember the occasion; Home Economics Convener distributed recipe books from the Carnation Co.; branch visited the Grace Christian Home at Huntingville, with residents joining members at the tea hour; filled and shipped Christmas Stockings; **Brompton Road** observed Grandmother's Day with gifts and corsages for grandmothers; made pot holders for the Community Hall; heard good report of Annual meeting; collected Pennies for Friendship. **Lennoxville:** Mr. W. Richardson of the Town Council, and formerly of the Experimental Farm, Lennoxville, spoke on Conservation-Land, Air and Water, and was thanked by Convener of Agriculture, Mrs. A. Mack; papers on how to care for rose bushes in the spring, and how to control pests, black spot and mildew; Citizenship convener read instructions for flying National Flag; will again have their booth at Sherbrooke Fair; made and filled Christmas Stockings; accepted invitation to visit Beebe WI. **Milby** discussed Leather-work Course, and are contacting other branches; held contest on Wood Display, won by Mrs. B. Turner; entertained County President, Miss E. Smith; grandmothers exhibited old glassware and old china.

**STANSTEAD: Beebe** held handkerchief contest, with each member making two; many beautiful entries were exhibited, judged by Mrs. Wadleigh, with Mrs. Breault and Miss V. Moraville tied for 1st place; members brought picture of their mother for contest; sold Mother's Day flowers; rolcall a poem concerning Mother. Chinese Auction held. **Hatley:** Mrs. Naeve, a new resident from Vermont, exhibited beautiful handicraft work and arts, and gave a description of a new house on which she and her husband are working; handicraft contest held which was judged by Mrs. Naeve; entertained Lennoxville W.I. Centennial pins given to members; Centennial Project: A Memory Book of Hatley, to be sold. **Stanstead North:** Several members attended the Orleans County Extension Homemakers Council Meeting in Newport, Vermont; delicious pot luck supper was enjoyed by all, followed by an interesting meeting, which included a delightful review of 1967 styles presented by the Orleans County 4-H Clothing Review Blue Ribbon Winners. **Tomifobia** heard talk by the Convener of Publicity on the beginnings of the W.I. and on early days in the branch. **VAUDREUIL: Harwood:** each member brought in a Christmas stocking, beautifully decorated and well-packed; under convener of Home Economics.



Mrs. K. Davis, scraps of material left from the stockings were cut and made into tiny ones to be filled with candy for Christmas Party for retarded children; these were made and decorated at the meeting, the prize for the best being awarded to Mrs. Lalonde.

## HERE'S AN IDEA!

Ladies, dig out your place mats and start making use of them every day!... Here's why: News has reached us that in some 47 countries around the world demand is going up by leaps and bounds. More housewives are discovering too that with one good quality dinnerware service and a half dozen or so different stylings in place mats, they can constantly give their table settings an inviting and surprising new look.

In Britain alone the place mat industry has grown so large that last summer they formed a Table Mat Manufacturer's group and put out such slogans as "Table Mats Matter" and "Give a Meal Mat Appeal". Of course the reasons for their popularity is that they perform a useful function in protecting your table from heat, grease, acid and alcohol. They help create an atmosphere and mood that adds to the enjoyment of the meal. Unusual types become a conversation piece. They are the finish-

ing touch to an attractive table decoration. They make ideal gifts for showers, weddings, birthdays, anniversaries and Christmas, and so have a year round sales potential.

Now here is where you can put your own individuality into the setting by making your own mats, utilizing your many crafts such as weaving, crocheting, painting, embroidery, hemstitching, and I am sure you'll think of many more for these attractive settings. And don't forget this could be a centennial project; or if you have a bazaar, have a place mat stall for souvenirs that pack and carry well.

Then too if you travel, collect the place mats from the various restaurants and make notes on the back. At the end of the journey you'll be glad you did. Then put them in a memory scrap book for further pleasure.

Talking about Centennial Year, everyone seems to be going into grandma's trunks for all kinds of old things—costumes, jewellery, etc. And here's something else I saw—a beautiful set of fringed place mats made from grandma's old checked tablecloth that had long since been laid away because there was a hole in the corner, now taking its place again with pride for the owner.

So see what you can do to make your tables lovelier.

*Olive M. Wallace  
Home Economics Convenor,  
Quebec Women's Institutes*

## MILLION COWS INSEMINATED

The number of cows bred by artificial insemination in Quebec shows an appreciable and very encouraging increase year by year. This trend does credit to our farmers, who are becoming increasingly aware of the many advantages of this method of breeding.

The number of inseminations carried out between 1948 — when the Quebec Artificial Breeding Centre began to operate — and the beginning of 1967 has reached a million.

The millionth cow inseminated by the Centre was HAPPYACRES DEKOL LINDA 1752409, born in 1962. She was inseminated at the farm of Mr. Victor Bessette of Waterville on January 9th 1967 with semen from the bull H74 H.A.P. MARQUIS LAID TENSEN 260220.

**This article supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.**

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## FLYING CANADA'S FLAG

### Flying the Flag

- Q. When should the flag be flown?
- A. Officially, the flag is flown on land only in daylight hours, being raised at sunrise and lowered at sunset.
- Q. Is any special ceremony observed when the flag is raised or lowered?
- A. There is no official statute concerning a salute to the flag in Canada as in some countries. When the flag is raised it is customary for civilian males to stand and remove their hats. Women also stand.
- Q. Is the flag ever flown at night?
- A. On special occasions, when it should be illuminated.

### With other Flags

- Q. If the flag is flown with other flags, which should be raised or lowered first?
- A. When more than one flag is flown and it is impossible to hoist or lower them at the same time, the Canadian flag should be hoisted first and lowered last.
- Q. Is it correct to fly another flag on the same staff as the Canadian flag?
- A. Territorial flags flown together, for example, the flag of another country or a provincial flag along with the Canadian flag, should be flown on separate staffs. The flag should be of approximately the same size and flown at the same height. 'Non-territorial' flags may be flown beneath the national flag when physical arrangements make it impossible for them to be flown separately. For example, during this year Centennial flags may often be

seen flying beneath the national flags. But no flag, banner or pennant should be flown or displayed ABOVE the Canadian flag.

### Position of Honour

- Q. If two or more flags are flown at the same time on separate staffs, should they be placed in any particular order?
- A. If there are two flags, the Canadian flag should be at the left as seen by spectators in front, of the flags. If there are three, the Canadian flag should be in the center, with the second-ranking flag to the left, as seen from the front by spectators. If there is a line of flags there may be one Canadian flag flying at each end of the line.
- Q. What should be the position of the Canadian flag in a procession or parade?
- A. If several flags are carried, the Canadian flag should be in the position of honour at the marching right or at the centre front.

### Displayed Vertically

- Q. If a flag is displayed vertically on a wall, how should it be placed?
- A. With the top point of the maple leaf to the left and the stem to the right, as seen by spectators.

### Number of Flags

- Q. Is there any limit to the number of flags which may be displayed at one time?
- A. There is no restriction, so long as the display is in good taste.

### Position During Speech or Meeting

- Q. How may the flag be displayed during a speech or meeting?
- A. If it is displayed on a staff

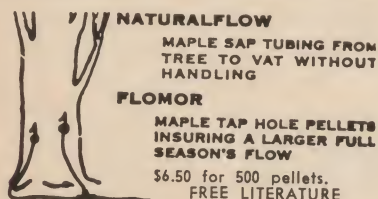
placed on a platform, stage or dais, it should be to the right of the speaker. It should not be used to cover the speaker's table or draped in front of the platform, nor should it be allowed to touch the floor. If displayed flat against the wall at the back of the platform, the flag should be above and behind the speaker.

- Q. Incidentally, how long have red and white been recognized as the official colors of Canada?
- A. For more than forty-five years. Red and white were officially designated as the colors for Canada by King George V on November 21, 1921.
- Q. And when was the maple leaf chosen as a Canadian emblem?
- A. As early as 1700, or not before. In 1860 it was used for decorative purposes during the visit of Prince of Wales to Canada. In 1868 it appeared in the Coat of Arms granted to Ontario and Quebec. It was used as the distinctively Canadian symbol in the Coat of Arms granted Canada in 1921. For many years the maple leaf has also been used extensively as a symbol and mark of identity by the Canadian Armed Forces.

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- A 28-page booklet entitled "The National Flag of Canada" is available from the Queen's Printer, Ottawa for 25¢. There are also two leaflets "Etiquette for Canada's National Flag" and "L'Etiquette relative au drapeau du Canada" available free on request from the Canadian Citizenship Branch, Ottawa.

Submitted by Mrs. J. Westover  
QWI Conv. of Citizenship



Naturalflow Maple Sap Plastic Tubes  
& Supplies Ltd.  
St. Emile de Montcalm, P.Q.

## COLLEGE HOST TO MANY CONVENTIONS

Centennial Summer has been a busy one at Macdonald College. Some forty organizations, representing over 5,000 people, have made Macdonald College their meeting place since the end of the academic year.

In late June, the Agricultural Institute of Canada and its six affiliated societies met for four days. Over 125 research papers, panel discussions and

symposiums went on the record as part of Canada's contribution to agricultural progress.

Other notable groups meeting were 500 members of the first International Congress of Farm Writers; 250 for the Centennial Symposium on Agriculture; 200 for the Annual Conference of the Ontario Department of Agricultural Extension Branch; Quebec Women's Institute; and many other professional and scientific groups.